



Atty. Docket No.: BP9806US-CP1

1655

05/31/01

#6

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 09/520,760  
Appl. Filing Date: March 7, 2000  
Application Title: Non-Nucleic Acid Probes, Probe Sets, Methods And Kit  
Pertaining To The Detection Of Human Chromosomes X, Y,  
1, 2, 3, 6, 8, 10, 11, 12, 16, 17 and 18  
Applicants: Krishan L. Taneja  
Group Art Unit: 1655  
Examiner: Jehanne E. Souaya  
Certified Mail No.: 7099 3400 0007 5728 4104

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Brian D. Gildea, Reg. 39,995

Commissioner for Patents  
Washington, DC 20231

Sir:

Information Disclosure Statement

In accordance with 37 CFR 1.97, Applicant(s) hereby make of record the following information and publications which have been identified in, or reviewed during, the preparation of the pending patent application. Copies of PTO Form 1449 and each publication listed thereon [INCLUDE REFERENCE CODE, E.G., (U.S. PATENTS: AA through AZ); (BA - BZ FOREIGN PATENTS) &/OR (CA - CZ JOURNAL ARTICLES ETC.)] accompany this statement, either in the entirety or in the relevant parts.



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Fee

These papers are submitted prior to the issuance of the first Action on the merits. Thus, no fee is believed to be due for the entering of these papers into the file. If, however, the Office believes a fee to be due, the Office is hereby authorized to charge the fee due to Deposit Account 02-3240.

Respectfully submitted,

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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.: BP9806US-CP1  
 APPLICANT: Krishan L. Taneja  
 SERIAL NO.: 09/520,760  
 FILING DATE: March 7, 2000  
 GROUP: 1655

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US PATENT DOCUMENTS							
EXAM INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	5,434,047	Jul. 18, 1995	Arnold	435		Mar. 31, 1993
	AB	5,447,841	Sep. 5, 1995	Gray	435		Dec. 14, 1990
	AC	5,539,082	Jul. 23, 1996	Nielsen	530		Apr. 26, 1993
	AD	5,759,781	Jun. 2, 1998	Ward	435		May 1, 1996
	AE	5,776,688	Jul. 7, 1998	Bittner	435		Jan. 10, 1997
	AF	5,792,610	Aug. 11, 1998	Witney	435		May 1, 1996
	AG	5,817,462	Oct. 6, 1998	Garini	435		Apr. 22, 1996
	AH	5,830,645	Nov. 3, 1998	Pinkel	435		Dec. 9, 1994
	AI	5,840,482	Nov. 24, 1998	Gray	435		Oct. 10, 1990
	AJ	5,888,730	Mar. 30, 1999	Gray	435		Oct. 6, 1995
	AK	5,985,563	Nov. 16, 1999	Hyldig-Nielsen et al.	435	6	Jun. 5, 1997
	AL	6,015,710	Jan. 18, 2000	Shay	435		Apr. 9, 1996

FOREIGN PATENT  
DOCUMENTS

EXAM INIT.		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES   NO
	BA	EP0878552A1	Nov. 18, 1998	EPO			
	BB	WO95/32305	Nov. 30, 1995	PCT			
	BC	WO97/14026	Apr. 17, 1997	PCT			
	BD	WO97/18325	May 22, 1997	PCT			
	BE	WO98/24933	Jun. 11, 1998	PCT			

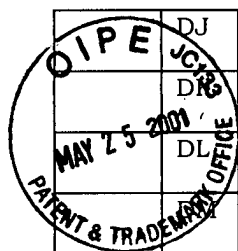
	CA	Alexandrov, I.A. et al, Chromosome-specific alpha satellites: two distinct families on human chromosome 18. <b>Genomics</b> 11, 15-23 (1991)					
	CB	Bergmann, F. et al, Solid phase synthesis of directly linked PNA-DNA-hybrids. <b>Tet. Lett.</b> 36, 6823-6826 (1995)					
	CC	Chevret, E. et al, Increased incidence of hyperhaploid 24,XY spermatozoa detected by three-colour FISH in a 46,WY/47,XXY male. <b>Hum. Genet.</b> 97, 171-175 (1996)					
	CD	Chong, S.S. et al, Preimplantation prevention of X-linked disease: reliable and rapid sex determination of single human cells by restriction analysis of simultaneously amplified ZFX and ZFY sequences. <b>Human Mol. Gen.</b> 2, 1187-1191 (1993)					
	CE	Cooke, H.J. et al, Characterisation of a human Y chromosome repeated sequence and related sequences in higher primates. <b>Chromosoma</b> 87, 491-502 (1982)					
	CF	Coonen, E. et al, Optimal preparation of preimplantation embryo interphase nucelic for analysis by fluorescene in-situ hybridization. <b>Human Repro.</b> 9, 533-537 (1994)					
	CG	Cozzi, J. et al, Achievement of meiosis in XXY germ cells: study of 543 sperm karyotypes from an XY/XXY mosaic patient. <b>Hum. Genet.</b> 93, 32-34 (1994)					
	CH	Delhanty, J.D.A. et al, Detection of aneuploidy and chromosomal mosaicism in human embryos during preimplantation sex determination by fluorescent in situ hybridization, (FISH). <b>Human Mol. Genet.</b> 2, 1183-1185 (1993)					
	CI	Delhanty, J.D.A., Preimplantation diagnosis. <b>Prenatal Diagnosis</b> 14, 1217-1227 (1994)					

EXAMINER: \_\_\_\_\_ DATE CONSIDERED: \_\_\_\_\_



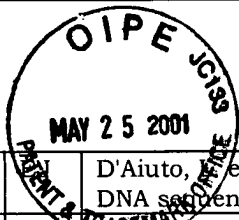
CJ	Dewald, G. et al, A multicenter investigation with interphase fluorescence in situ hybridization using X and Y-chromosome probes. <b>Am. J. Med. Genet.</b> 76, 318-326 (1998)
CK	Dewald, G.W. et al, Fluorescence in situ hybridization with X and Y chromosome probes for cytogenetic studies on bone marrow cells after opposite sex transplantation. <b>Bone Marrow Transplan.</b> 12, 149-154 (1993)
CL	Divane, A. et al, Rapid prenatal diagnosis of aneuploidy from uncultured amniotic fluid cells using five-colour fluorescence <i>in situ</i> hybridization. <b>Prenatal Diagnosis</b> 14, 1061-1069 (1994)
CM	Egholm, M. et al, PNA hybridizes to complementary oligonucleotides obeying the Watson-Crick hydrogen-bonding rules. <b>Nature</b> 365, 566-568 (1993)
CN	Estop, A.M. et al, Meiotic products of a Klinefelter 47,XXY male as determined by sperm fluorescence in-situ hybridization analysis. <b>Human Repro.</b> 13, 124-127 (1998)
CO	Frommer, M. et al, Human satellite I sequences include a male specific 2.47 kb tandemly repeated unit containing one Alu family member per repeat. <b>Nucl. Acids Res.</b> 12, 2887-2900 (1984)
CP	Gersen, S.L. et al, Rapid prenatal diagnosis of 14 cases of triploidy using FISH with multiple probes. <b>Prenatal Diagnosis</b> 15, 1-5 (1995)
CQ	Good, L. et al, Review: Progress in developing PNA as a gene-targeted drug. <b>Antisense &amp; Nucl. Acid Drug Dev.</b> 7, 431-437 (1997)
CR	Greig, G.M. et al, Chromosome-specific alpha satellite DNA from the centromere of human chromosome 16. <b>Am. J. Hum. Genet.</b> 45, 862-872 (1989)
CS	Griffin, D.K. et al, Dual fluorescent in situ hybridization for simultaneous detection of X and Y chromosome-specific probes for the sexing of human preimplantation embryonic nuclei. <b>Hum. Genet.</b> 89, 18-22 (1992)
CT	Griffin, D.K. et al, Diagnosis of sex in preimplantation embryos by fluorescent in situ hybridisation. <b>Brit. J. Medicine</b> 306, 1382 (1993)
CU	Grifo, J.A. et al, Preembryo biopsy and analysis of blastomeres by in situ hybridization. <b>Am. J. Obstet. Gynecol.</b> 163, 2013-2019 (1990)
CV	Haaf, T. et al, Organization, polymorphism, and molecular cytogenetics of chromosome-specific $\alpha$ -satellite DNA from the centromere of chromosome 2. <b>Genomics</b> 13, 122-128 (1992)
CW	Haaime, G. et al, Peptide Nucleic Acids (PNAs) containing thymine monomers derived from chiral amino acids: hybridization and solubility properties of D-lysine PNA. <b>Angew. Chem. Int. Ed. Engl.</b> 35, 1939-1942 (1996)
CX	Han, T.L. et al, Simultaneous detection of X- and Y-bearing human sperm by double fluorescence in situ hybridization. <b>Molecular Repro. and Dev.</b> 34, 308-313 (1993)
CY	Handyside, A.H. et al, Biopsy of human preimplantation embryos and sexing by DNA amplification. <b>The Lancet</b> Feb. 18, 347-349 (1989)
CZ	Handyside, A.H. et al, Pregnancies from biopsied human preimplantation embryos sexed by Y-specific DNA amplification. <b>Nature</b> 344, 768-770 (1990)
DA	Harper, J.C. et al, Identification of the sex of human preimplantation embryos in two hours using an improved spreading method and fluorescent in-situ hybridization (FISH) using directly labelled probes. <b>Human Repro.</b> 9, 721-724 (1994)
DB	Harper, J.C., Preimplantation diagnosis of inherited disease by embryo biopsy: an update of the world figures. <b>J. Assisted Repr. and Genetics</b> 13, 90-95 (1996)
DC	Harris, C. et al, Potential use of buccal smears for rapid diagnosis of autosomal trisomy or chromosomal sex in newborn infants using DNA probes. <b>Amer. J. Med. Genetics</b> 53, 355-358 (1994)
DD	Howe, J.R. et al, Development of a sequence-tagged site for the centromere of chromosome 10: its use in cytogenetic and physical mapping. <b>Hum. Genet.</b> 91, 199-204 (1993)
DE	Jabs, E.W. et al, Characterization of Human Centromeric Regions of Specific Chromosomes by Means of Alphoid DNA Sequences. <b>Am. J. Hum. Genet.</b> 41, 374-390 (1987)
DF	Jacobs, P.A., Epidemiology of chromosome abnormalities in man. <b>Amer. J. Epidemiology.</b> 105, 180-191 (1977)
DG	Jenkins, R.B. et al, Fluorescence in situ hybridization: a sensitive method for trisomy 8 detection in bone marrow specimens. <b>Blood</b> 79, 3307-3315 (1992)
DH	Johnson, L.A. et al, Gender preselection in humans? Flow cytometric separation of X and Y spermatozoa for the prevention of X-linked diseases. <b>Human Repro.</b> 8, 1733-1739 (1993)
DI	Kihana, T. et al, Allelic loss of chromosome 16q in endometrial cancer: correlation with poor prognosis of patients and less differentiated histology. <b>Jpn. J. Cancer Res.</b> 87, 1184-1190 (1996)

EXAMINER: \_\_\_\_\_ DATE CONSIDERED: \_\_\_\_\_



DJ	Kontogianni, E.H. et al, Co-amplification of X- and Y-specific sequences for sexing preimplantation human embryos. <b>Preimplantation Genetics</b> (ed. Verlinsky and Kuliev) 139-145 (1991)
DK	Lansdorp, P.M. et al, Heterogeneity in telomere length of human chromosomes. <b>Human Mol. Genet.</b> 5, 685-691 (1996)
DL	Lesnik, E. et al, Triplex formation between DNA and mixed purine-pyrimidine PNA analog with lysines in backbone. <b>Nucleosides &amp; Nucleotides</b> 16, 1775-1779 (1997)
DM	Liu, J. et al, Amplification of X- and Y-chromosome-specific regions from single human blastomeres by polymerase chain reaction for sexing of preimplantation embryos. <b>Human Repro.</b> 9, 716-720 (1994)
DN	Lu, P.Y. et al, Dual color fluorescence in situ hybridization to investigate aneuploidy in sperm from 33 normal males and a man with a t(2;4;8)(q23;q27;p21). <b>Fertility and Sterility</b> 62, 394-399 (1994)
DO	Lubs, H.A. et al, Chromosomal abnormalities in the human population: estimation of rates based on New Haven newborn study. <b>Science</b> 169, 495-497 (1970)
DP	Martini, E. et al, Constitution of semen samples from XYY and XXY males as analysed by <i>in situ</i> hybridization. <b>Human Repro.</b> 11, 1638-43 (1996)
DQ	Matera, A.G. et al, An oligonucleotide probe specific to the centromeric region of human chromosome 5 <b>Genomics</b> 18, 729-731 (1993)
DR	Meyne, J. et al, In situ hybridization using synthetic oligomers as probes for centromere and telomere repeats. <b>Methods in Mol. Biol.</b> 33, 63-74 (1994)
DS	Munne, S. et al, Chromosome abnormalities in human arrested preimplantation embryos: a multiple-probe FISH study. <b>Am. J. Hum. Genet.</b> 55, 150-159 (1994)
DT	Munne, S. et al, Diagnosis of major chromosome aneuploidies in human preimplantation embryos. <b>Human Repro.</b> 8, 2185-2191 (1993)
DU	Nath, J. et al, Fluorescence in situ hybridization (FISH): DNA probe production and hybridization criteria. <b>Biotechnic &amp; Histochem.</b> 73, 6-22 (1998)
DV	Nielsen, P.E. et al, Peptide nucleic acids (PNAs): potential anti-sense and anti-gene agents. <b>Anti-Cancer Drug Design</b> 8, 53-63 (1993)
DW	Rao, P. N. et al, Rapid detection of aneuploidy in uncultured chorionic villus cells using fluorescence <i>in situ</i> hybridization. <b>Prenatal Diagnosis</b> 13, 233-238 (1993)
DX	Schad, C.R. et al, Application of fluorescent in situ hybridization with X and Y chromosome specific probes to buccal smear analysis. <b>Am. J. Medical Genet.</b> 66, 187-192 (1996)
DY	Schrurs, B.M. et al, Preimplantation diagnosis of aneuploidy using fluorescent in-situ hybridization: evaluation using a chromosome 18-specific probe. <b>Human Repro.</b> 8, 296-301 (1993)
DZ	Stallings, R.L. et al, Chromosome 16-specific repetitive DNA sequences that map to chromosomal regions known to undergo breakage/rearrangement in leukemia cells. <b>Genomics</b> 13, 332-338 (1992)
EA	Strom, C.M. et al, Reliability of gender determination using the polymerase chain reaction (PCR) for single cells. <b>J. of in Vitro Fertil. and Embryo Transfer</b> 8, 225-229 (1991)
EB	Taneja, K.L., Localization of trinucleotide repeat sequences in myotonic dystrophy cells using a single fluorochrome-labeled PNA probe. <b>BioTech.</b> 24, 472-476 (1998)
EC	Tomac, S. et al, Ionic effects on the stability and conformation of peptide nucleic acid complexes. <b>J. Am. Chem. Soc.</b> 118, 5544-5552 (1996)
ED	van Tol, M.J.D. et al, Simultaneous detection of X and Y chromosomes by two-colour fluorescence in situ hybridization in combination with immunophenotyping of single cells to document chimaerism after sex-mismatched bone marrow transplantation. <b>Bone Marrow Transplan.</b> 21, 497-503 (1998)
EE	Vidal, F. et al, Efficiency of microsort flow cytometry for producing sperm populations enriched in X- or Y-chromosome haplotypes: a blind trial assessed by double and triple colour fluorescent in-situ hybridization. <b>Human Repro.</b> 13, 308-312 (1998)
EF	Waye, J.S. et al, Chromosome-specific alpha satellite DNA: nucleotide sequence analysis of the 2.0 kilobasepair repeat from the human X chromosome. <b>Nucl. Acids Res.</b> 13, 2731-2743 (1985)
EG	Waye, J.S. et al, Molecular analysis of a deletion polymorphism in alpha satellite of human chromosome 17: evidence for homologous unequal crossing-over and subsequent fixation. <b>Nucl. Acids Res.</b> 14, 6915-6927 (1986)
EH	Waye, J.S. et al, Structure, organization, and sequence of alpha satellite DNA from human chromosome 17: evidence for evolution by unequal crossing-over and an ancestral pentamer repeat shared with the human X chromosome. <b>Molecular and Cell. Bio.</b> 6, 3156-3165 (1986)
EI	Weiler, J. et al, Hybridisation based DNA screening on peptide nucleic acid (PNA) oligomer arrays. <b>Nucl. Acids Res.</b> 25, 2792-2799 (1997)

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	D'Aiuto, et al, Cloning and comparative mapping of a human chromosome 4-specific alpha satellite DNA sequence. <b>Genomics</b> 18, 230-235 (1993)
EK	1988, G.M. et al, Organization and evolution of an alpha satellite DNA subset shared by human chromosomes 13 and 21. <b>J. Mol. Evol.</b> 37, 464-475 (1993)
EL	Ikeno, M. et al, Distribution of CENP-B boxes reflected In CREST centromere antigenic sites on long-range ?-satellite DNA arrays of human chromosome 21. <b>Hum. Mol. Gen.</b> 3, 1245-1257 (1994)
EM	Mashkova, T.D. et al, Genomic organization, sequence and polymorphism of the human chromosome 4-specific ?-satellite DNA. <b>Gene</b> 140, 211-217 (1994)
EN	Rocchi, M. et al, A human chromosome 9-specific alphoid DNA repeat spatially resolvable from satellite 3 DNA by fluorescent <i>In situ</i> hybridization. <b>Genomics</b> 9, 517-523 (1991)
EO	Waye, J.S. et al, Genomic organization of alpha satellite DNA on human chromosome 7: evidence for two distinct alphoid domains on a single chromosome. <b>Mol. and Cell. Biology</b> 7, 349-356 (1987)

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